

SEQUENCE LISTING

```
<110>
       Barnea, Eilon
       Beer, Ilan
Ziv, Tamar
       Admon, Arie
       Dassau, Lior
       Buchsbaum, Samuel
<120> METHOD OF IDENTIFYING PEPTIDES CAPABLE OF BINDING TO MHC MOLECULES, PEPTIDES IDENTIFIED THEREBY AND THEIR USES
<130> 26884
<140> US 10/705,459
<141> 2003-11-12
<150> PCT IL02/00383
<151> 2002-05-16
<150> US 09/865,548
<151> 2001-05-29
<150> US 60/290,958
<151> 2001-05-16
<160> 372
<170> PatentIn version 3.3
<210> 1
<211>
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 1
Leu Leu Asp Val Pro Thr Ala Ala Val
<210> 2
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 2
Leu Leu Leu Asp Val Pro Thr Ala Ala Val
<210> 3
<211> 12
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 3
Leu Leu Leu Asp Val Pro Thr Ala Ala Val Gln Ala
<210> 4
<211> 8
<212> PRT
<213> Artificial Sequence
```

```
<220>
<223> synthetic peptide
Gly Leu Leu Gly Thr Leu Val Gln 1 	 5
<210> 5
<220>
<223> synthetic peptide
<400> 5
Gly Leu Leu Gly Thr Leu Val Gln Leu 1 \,\,
<210> 6
<211> 9
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 6
Ala Leu Phe Gly Ala Leu Phe Leu Ala 1 5
<210> 7
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 7
Ser Leu Leu Gly Gly Asp Val Val Ser Val 1 5 10
<210> 8
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 8
Asn Leu Thr Ile Ser Asp Val Ser Val
<210> 9
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 9
Ser Leu Trp Gly Gln Pro Ala Glu Ala
1 5
```

```
<210> 10
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 10
Ser Leu Ile Gly His Leu Gln Thr Leu 1 \hspace{1cm} 5
<210> 11
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 11
Ser Leu Ser Glu Lys Thr Val Leu Leu
<210> 12
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 12
<210> 13
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 13
Gly Leu Ile Glu Lys Asn Ile Glu Leu 1 5
<210> 14
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 14
Gly Leu Tyr Pro Gly Leu Ile Trp Leu 1 5
<210> 15
<211> 9
<212> PRT
<213> Artificial Sequence
```

```
<220>
<223> synthetic peptide
<400> 15
Tyr Leu Leu Pro Ala Ile Val His Ile
<210> 16
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 16
Ala Leu Ser Asp His His Ile Tyr Leu
<210> 17
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 17
Ile Leu Asp Gln Lys Ile Asn Glu Val
<210> 18
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 18
Ile Leu Asp Lys Lys Val Glu Lys Val 1 \phantom{\bigg|}5\phantom{\bigg|}
<210> 19
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 19
Ser Leu Leu Pro Pro Thr Ala Leu Val Gly Leu
<210> 20
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 20
Gly Val Tyr Asp Gly Glu Glu His Ser Val
```

```
<210> 21
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 21
Ser Leu Leu Pro Pro Asp Ala Leu Val Gly Leu
<210> 22
<211> 9
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 22
Thr Leu Trp Val Asp Pro Tyr Glu Val 1 	 5
<210> 23
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 23
Phe Leu Phe Asp Gly Ser Pro Thr Tyr Val
<210> 24
<211> 11
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 24
Phe Leu Phe Asp Gly Ser Pro Thr Tyr Val Leu 1 5 10 ^{\circ}
<210> 25
<211> 12
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 25
Ala Leu Trp Asp Ile Glu Thr Gly Gln Gln Thr Val
<210> 26
<211> 9
<212> PRT
<213> Artificial Sequence
```

```
<220>
<223> synthetic peptide
<400> 26
Val Pro Ser Glu Pro Gly Gly Val Leu
<210> 27
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 27
Ser Pro Thr Gln Pro Ile Gln Leu
<210> 28
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 28
Ser Pro Ala Leu Pro Gly Leu Lys Leu
<210> 29
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 29
Ala Pro Arg Thr Val Ala Leu Thr Ala
<210> 30
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 30
Ser Pro Lys Leu Pro Val Ser Ser Leu
<210> 31
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 31
Lys Pro Ser Leu Pro Phe Thr Ser Leu
```

```
<210> 32
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 32
Leu Val Met Ala Pro Arg Thr Val Leu 1 5
<210> 33
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 33
Lys Pro Ala Phe Phe Ala Glu Lys Leu
<210> 34
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 34
Ser Pro Tyr Gln Asn Ile Lys Ile Leu
<210> 35
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 35
Ala Ala Ser Lys Glu Arg Ser Gly Val Ser Leu
<210> 36
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
Ala Pro Phe Glu Pro Leu Ala Ser Gly Ile Leu 1 5 10 \phantom{\Big|}
<210> 37
<211> 13
<212> PRT
<213> Artificial Sequence
```

```
<220>
<223> synthetic peptide
<400> 37
Ala Pro Ser Gly Ser Leu Ala Val Pro Leu Ala Val Leu
<210> 38
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 38
Gly Val Tyr Asp Gly Arg Glu His Thr Val 1 \phantom{-}5\phantom{+}
<210> 39
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 39
Gly Leu Tyr Asp Gly Met Glu His Leu 1 \, 5
<210> 40
<211> 30
<212> DNA
<213> Artificial Sequence
<220>
<223> synthetic oligonucleotide
<400> 40
agattcccaa gcttatgtct cgctccgtgg
                                                                               30
<210> 41
<211> 39
<212> DNA
<213> Artificial Sequence
<220>
<223> synthetic oligonucleotide
<400> 41
agctagtcta gattatcaca tgtctcgatc ccacttaac
                                                                               39
<210> 42
<211> 9
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 42
Ile Met Asp Gln Val Pro Phe Ser Val
<210> 43
<211> 9
```

```
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 43
Ala Leu Leu Cys Ala Pro Ser Leu Leu
<210> 44
<211> 9
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 44
Ala Leu Ala Pro Gly Leu Pro Thr Ala 1 \phantom{\bigg|}5
<210> 45
<211> 7
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 45
Lys Leu Leu Glu Pro Val Leu
<210> 46
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 46
Ser Leu Leu Pro Ala Ile Val Glu
<210> 47
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
Ser Val Leu Gly Ser Leu Ser Ser Val
<210> 48
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 48
```

```
Leu Leu Gly Pro Pro Pro Val Gly Val
<210> 49
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 49
Pro Gly Pro Pro Pro Pro Pro Pro
<210> 50
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 50
Ser Met Ser Gly Pro Leu Ile Gly Val 1 \phantom{\bigg|}5
<210> 51
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 51
Ser Met Ala Pro Gly Leu Thr Ser Val 1 \phantom{\bigg|}5
<210> 52
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 52
Leu Leu Ile Pro Gly Leu Ala Thr Ala
<210> 53
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 53
Gly Leu Leu Gly Asn Val Ala Glu Val
<210> 54
<211> 8
```

```
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 54
<210> 55
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
Gly Leu Ala Glu Ser Val Ser Thr Leu
<210> 56
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 56
Ala Ile Ile Gly Gly Thr Phe Thr Val
<210> 57
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 57
Ile Ile Thr Gly Pro Ala Pro Val Leu 5
<210> 58
<210  8
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 58
<210> 59
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 59
```

```
<210> 60
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 60
Ile Leu Asp Ala Gly Gly His Asn Val
<210> 61
<210> 01
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 61
Gly Leu Tyr Ser Gly Val Thr Thr Val
<210> 62
<211> 7
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 62
Phe Leu Tyr Pro Phe Pro Leu 1 5
<210> 63
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 63
Ala Leu Leu Pro Ser Ser Pro Thr Leu 1 \hspace{1cm} 5
<210> 64
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 64
Lys Leu Gly Ser Val Pro Val Thr Val 1 5
<210> 65
<211> 9
```

```
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 65
Ala Leu Phe Pro Gly Val Ala Leu Leu
<210> 66
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 66
Gly Leu Val Gly Ser Leu Gln Glu Val 1 \phantom{\bigg|}5
<210> 67
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 67
Ala Pro Leu Ser Asp Thr Ala Gln Val
<210> 68
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 68
Ala Pro Leu Ser Asp Thr Ala Gln Val
<210> 69
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
Gly Leu Ala Thr Asp Val Gln Thr Val
<210> 70
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 70
```

```
Ser Leu Phe Gly Gly Ser Val Lys Leu 1 \hspace{1cm} 5
<210> 71
<210 /1
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 71
Lys Val Gly Pro Val Pro Val Leu Val
<210> 72
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 72
Gly Leu Leu Pro Asp Val Pro Ser Leu
<210> 73
<211> 9
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 73
Ala Leu Pro Pro Val Leu Thr Thr Val
<210> 74
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 74
Gly Val Leu Pro Asn Ile Gln Ala Val
<210> 75
<211> 9
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 75
Ala Leu Thr Pro Val Val Val Thr Leu 1 5
<210> 76
<211> 9
```

```
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 76
Ala Leu Asn Pro Ala Asp Ile Thr Val
<210> 77
<211> 9
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 77
<210> 78
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 78
Ser Leu Thr Gly His Ile Ser Thr Val
<210> 79
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 79
Val His Val Leu Thr Phe Thr Val
<210> 80
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 80
Ile Leu Gly Leu Gly Tyr Pro Ser Leu
<210> 81
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 81
```

```
Ala Leu Leu Ala Gly Ser Glu Tyr Leu
<210> 82
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 82
Ser Leu Ala Glu Leu Val His Ala Val 1 5
<210> 83
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 83
Met Gln Pro Ile Leu Leu Leu
<210> 84
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 84
Gly Leu Phe Ala Pro Gln Phe Tyr
                5
<210> 85
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 85
Ala Leu Trp Gly Gln Gly Thr Leu Val 1 \,
<210> 86
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 86
Asp Thr Glu Thr Ala Val Val Asn Val 1
<210> 87
<211> 9
```

```
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 87
Ala Leu Leu Pro Ile Phe Phe Gly Ala
<210> 88
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
Ala Met Val Ile Phe Lys Ser Gly Val
<210> 89
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 89
Ser Leu Leu Pro Ala Ile Val Glu Leu
<210> 90
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 90
Ser Leu Phe Pro Gly Gln Val Val Ile
<210> 91
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 91
Ser Leu Leu Glu Lys Ser Leu Gly Leu
<210> 92
<211> 9
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 92
```

```
Ile Leu Thr Asp Ile Thr Lys Gly Val 1 \phantom{\bigg|}5
<210> 93
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 93
Gly Leu Phe Gln Gly Lys Thr Pro Leu 1 5
<210> 94
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 94
<210> 95
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 95
Phe Leu Tyr Pro Phe Pro Leu Ala
<210> 96
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 96
Ala Leu Thr Gly His Leu Glu Glu Val
<210> 97
<220>
<223> synthetic peptide
<400> 97
Ser Leu Leu Asp Pro Val Pro Glu Val 1 \phantom{\bigg|}5
<210> 98
<211> 9
```

```
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 98
Met Ala Pro Gln Ala Leu Leu Leu
<210> 99
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 99
Phe Ser Asn Gly Tyr Leu Ala Ser Leu 1 	 5
<210> 100
<211> 9
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 100
Thr Leu Ile Glu Asp Ile Leu Gly Val
<210> 101
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 101
Ile Ala Glu Ala Val Arg Thr Thr Leu
<210> 102
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 102
Lys Leu Ser Glu Leu Glu Ala Ala Leu
<210> 103
<211> 10
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 103
```

```
Phe Leu Ser Glu His Pro Asn Val Thr Leu
<210> 104
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 104
Ser Leu Ser Val Lys Leu Glu Gln Ala
<210> 105
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 105
Met Leu Leu Ala Ala Leu Met Ile Val
<210> 106
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 106
Ala Ile Leu Pro Thr Ser Ile Phe Leu 1 5
<210> 107
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 107
Ala Ala Leu Pro Asn Val Tyr Glu Val
<210> 108
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 108
Arg Met Leu Pro His Ala Pro Gly Val
<210> 109
<211> 9
```

```
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 109
Leu Met Val Leu Val Ala Leu Ile Leu
<210> 110
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 110
Lys Ile Leu Pro Thr Leu Glu Ala Val
<210> 111
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 111
Ala Leu Leu Asp Arg Ile Val Ser Val
<210> 112
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 112
Thr Leu Val Tyr His Val Val Gly Val
<210> 113
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 113
Tyr Leu Pro Pro Ala Thr Gln Val Val
<210> 114
<211> 9
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 114
```

```
Pro Met Glu Ala Leu Ala Glu Gln Val 1 \,
<210> 115
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 115
Arg Leu Ser Glu Ala Ile Val Thr Val
<210> 116 .
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 116
Ser Leu Asp Gln Pro Thr Gln Thr Val
<210> 117
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 117
Lys Leu His Gly Val Asn Ile Asn Val
<210> 118
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 118
Leu Val Met Ala Pro Arg Thr Val Leu
<210> 119
<211> 9
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 119
Ser Ile Ile Gly Arg Leu Leu Glu Val
<210> 120
<211> 9
```

```
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 120
Met Ala Val Ala Leu Gln Leu Arg Val
<210> 121
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 121
Gly Leu Asn Glu Glu Ile Ala Arg Val
<210> 122
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 122
Ile Met Lys Val Ala Gln Ala Lys Leu
<210> 123
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 123
Thr Leu Ser Glu Val Thr Asn Gln Leu 1 5
<210> 124
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 124
Ala Leu Phe Glu Gly Lys Val Gln Leu
<210> 125
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 125
```

```
Gly Leu Lys Gly Arg Val Phe Glu Val \mathbf{1}
<210> 126
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 126
Asn Ile Phe Pro Tyr Pro Val Gly Val 1 	 5
<210> 127
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 127
Leu Val Ser Ile Val Val Ala Val Pro Leu 1 5 10
<210> 128
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 128
Asn Met Tyr Gly Lys Val Val Thr Val 1 	 5
<210> 129
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 129
Ser Leu Ile Asn Val Gly Leu Ile Ser Val
<210> 130
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
Ala Leu Leu Gly Thr Leu Trp Glu Ile 1
<210> 131
<211> 9
```

```
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 131
Phe Gln Asp Pro Val Pro Leu Thr Val
<210> 132
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 132
Gly Leu Tyr Pro Asn Leu Ile Gln Val
<210> 133
<211> 9
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 133
<210> 134
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 134
Ala Leu Leu Asp Lys Leu Tyr Ala Leu \mathbf{1}
<210> 135
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 135
<210> 136
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 136
```

```
Thr Leu Trp Val Asp Pro Tyr Glu 1
<210> 137
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 137
Lys Ile Ala Asp Phe Gly Trp Ser Val 1 \,
<210> 138
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 138
Ser Leu Leu Ser His Val Glu Gln Leu
<210> 139
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 139
Gly Leu Ala Asp Lys Val Tyr Phe Leu 1 \,\,
<210> 140
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 140
Ser Leu Leu Asp Ile Ile Glu Lys Val
<210> 141
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 141
Phe Val Phe Pro Gly Glu Leu Leu
<210> 142
<211> 9
```

```
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 142
Ala Leu Asn Glu Leu Leu Gln His Val
<210> 143
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 143
Asn Leu Tyr Glu Gly Gln Ile Thr Val
<210> 144
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 144
Phe Thr Lys Asp Phe Ala Pro Val Ile
<210> 145
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 145
Lys Leu Leu Glu Pro Val Leu Leu Leu
<210> 146
<211> 9
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 146
Gly Leu Phe Ala Pro Gln Phe Tyr Val
<210> 147
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 147
```

```
Leu Met Val Asp His Val Thr Glu Val
                 5
<210> 148
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 148
Phe Leu Leu Pro Ile Leu Ser Gln Ile 1 5
<210> 149
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 149
Phe Leu Ile Pro Leu Asn Ile Thr Asn
<210> 150
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 150
<210> 151
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 151
Leu Leu Asp Arg Phe Leu Ala Thr Val
<210> 152
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 152
Tyr Leu Asp Pro Ser Val Leu Ser Gly Val 1 5
<210> 153
<211> 9
```

```
<212> PRT
<213> Artificial Sequence
<220>
<223> · synthetic peptide
<400> 153
Leu Leu Tyr Pro Thr Glu Ile Thr Val
<210> 154
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 154
Asn Leu Gly Asp Phe Leu Ile Phe Leu
<210> 155
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 155
Gly Leu Tyr Glu Gly Leu Thr Trp Leu
<210> 156
<210     150
<211>     9
<212>     PRT
<213>     Artificial Sequence
<220>
<223> synthetic peptide
<400> 156
Ser Leu Phe Asp Leu Asn Phe Gln Ala
<210> 157
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 157
Met Phe Ser Leu Glu Asp Ser Ile Ile
<210> 158
<211> 9
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 158
```

```
Ala Met Trp Glu His Pro Ile Thr Ala
<210> 159
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 159
Tyr Leu Gly Arg Leu Ala His Glu Val
<210> 160
<210    160
<211>    9
<212>    PRT
<213>    Artificial Sequence
<220>
<223> synthetic peptide
<400> 160
Gly Leu Ile Asp His Gln Thr Tyr Leu
<210> 161
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 161
Ala Ile Gln Asp Lys Leu Phe Gln Val 1 \,
<210> 162
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 162
Ile Val Lys Trp Asp Arg Asp Met 1 5
<210> 163
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 163
Arg Ile Ile Asp Val Val Tyr Asn Ala
1 5
<210> 164
<211> 9
```

```
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 164
Lys Ile Tyr Glu Gly Gln Val Glu Val 1 \phantom{\bigg|}
<210> 165
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 165
Phe Leu Pro Ser Tyr Ile Ile Asp Val
<210> 166
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 166
Tyr Met Met Pro Val Asn Ser Glu Val
<210> 167
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 167
Asn Lys Asp Leu Lys Met Pro Lys Val 1 \hspace{1cm} 5
<210> 168
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 168
Asn Leu Ala Glu Asp Ile Met Arg Leu
<210> 169
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 169
```

```
Tyr Leu Pro Glu Leu Leu Gln Thr Val
<210> 170
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 170
Phe Leu Tyr Pro Phe Pro Leu Ala Leu
<210> 171
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 171
Asn Leu Tyr Pro Phe Val Lys Thr Val
<210> 172
<211> 9
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 172
Ser Val Ile Glu Gln Leu Phe Phe Val
<210> 173
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 173
Ser Leu Leu Glu Pro Phe Val Tyr Leu
<210> 174
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 174
Ile Leu Phe Gly His Glu Asn Arg Val
<210> 175
<211> 10
```

```
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 175
Lys Leu Gln Glu Val Gly Gln Val Ser Val
<210> 176
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 176
Arg Leu Phe Asp Glu Pro Gln Leu Ala
<210> 177
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 177
Ser Leu Phe Pro Gly Lys Leu Glu Val Val 1 5 10
<210> 178
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 178
Val Met Leu Gly Thr Pro Phe Leu Val Ile
<210> 179
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 179
Ser Leu Tyr Asp Tyr Asn Pro Asn Leu 1 5
<210> 180
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 180
```

```
Phe Leu Leu Gly Pro Arg Leu Val Leu Ala 1 \phantom{\bigg|} 5 \phantom{\bigg|} 10
<210> 181
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 181
Phe Leu Tyr Thr Gly Glu Gly Asp Thr Val
<210> 182
<211> 9
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 182
Lys Leu Asn Pro Gln Gln Phe Glu Val
<210> 183
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 183
Ser Leu Ala Asp Leu Gln Asn Asp Glu Val 1 \phantom{\bigg|} 5 \phantom{\bigg|} 10
<210> 184
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 184
Arg Leu Leu Asp Tyr Val Val Asn Ile
<210> 185
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 185
Phe Val Asp Asp Tyr Thr Val Arg Val 1 	 5
<210> 186
<211> 9
```

```
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 186
Ser Leu Phe Glu Gly Thr Trp Tyr Leu 1 \hspace{1cm} 5
<210> 187
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 187
Ala Leu Tyr Asn Trp Leu Ile Gln Val
<210> 188
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 188
<210> 189
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 189
Phe Thr Trp Glu Gly Leu Tyr Asn Val 1 	 5
<210> 190
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 190
Ile Leu Met Glu His Ile His Lys Leu
1 5
<210> 191
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 191
```

```
Arg Leu Asp Glu Leu Gly Gly Val Tyr Leu
  <210> 192
<211> 9
<212> PRT
  <213> Artificial Sequence
  <220>
  <223> synthetic peptide
  <400> 192
  Lys Leu Leu Ser Lys Phe Tyr Glu Leu 1 \,\,
  <210> 193
<211> 9
  <212> PRT
<213> Artificial Sequence
  <223> synthetic peptide
  <400> 193
  Lys Val Leu Asp Phe Glu His Phe Leu 1 \hspace{1.5cm} 5
  <210> 194
<211> 9
<212> PRT
<213> Artificial Sequence
  <220>
  <223> synthetic peptide
<400> 194
  Tyr Leu Pro Glu Asp Phe Ile Arg Val
          5
  <210> 195
<211> 8
<212> PRT
  <213> Artificial Sequence
  <220>
  <223> synthetic peptide
  <400> 195
  Ser Leu Lys Tyr Val Pro Leu Val
1 5
  <210> 196
<211> 8
<212> PRT
<213> Artificial Sequence
  <220>
  <223> synthetic peptide
  <400> 196
  Leu Pro Tyr Trp Gly Val Ala Leu 1 5
  <210> 197
<211> 9
```

```
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 197
Ser Ile Tyr Pro Ser Pro Thr Gly Val
<210> 198
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 198
Ala Leu Ala Ser His Leu Ile Glu Ala
1 5
<210> 199
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 199
Lys Leu Gly Pro Ala Pro Lys Thr Leu
<210> 200
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 200
Lys Leu Leu Glu Pro Val Leu Leu
<210> 201
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 201
Ala Leu Ser Gly His Leu Glu Thr Val
<210> 202
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 202
```

```
Ser Leu Leu Asp Lys Ile Ile Gly Ala 1 5
<210> 203
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 203
Gly Leu Leu Gly Ala Gly Gly Thr Val Ser Val
<210> 204
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 204
Gly Leu Val Pro Phe Leu Val Ser Val 1 5
<210> 205
<211> 6
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 205
Phe Phe Ala Glu Gln Leu
<210> 206
<211> 6
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 206
Leu Arg Leu Gln Leu Leu
<210> 207
<211> 7
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 207
Ala Pro Arg Thr Val Leu Leu
<210> 208
```

<211> 8

```
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 208
Gly Pro Arg Ser Pro Ser Pro Leu
<210> 209
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 209
Gly Leu Gly Pro Val Phe Leu Leu 1
<210> 210
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 210
Leu Leu Pro Leu Ile Ala Ala Leu
<210> 211
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 211
Ala Pro Ala Ala Val Ala Leu Val Leu
<210> 212
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 212
Ala Pro Ala Val Thr Pro Ala Val Leu
<210> 213
<211> 7
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 213
```

```
Phe Pro His Leu Ile Thr Leu
<210> 214
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 214
Lys Pro Phe Leu Gly Ile Gly Leu 1 5
<210> 215
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 215
Gly Glu Phe Gly Gly Phe Gly Ser Val 1 	 5
<210> 216
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 216
Ala Pro Tyr Gly Gly Pro Ile Ala Leu
<210> 217
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 217
Ala Pro Ile Ala Lys Val Gly Val Leu
1 5
<210> 218
<211> 9
<212> PRT
<213> Artificial Sequence
 <220>
 <223> synthetic peptide
 <400> 218
 Thr Pro Ala Pro Val Pro Thr Ser Leu
<210> 219
<211> 8
```

```
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 219
Ala Pro Arg Thr Val Leu Leu Leu
<210> 220
<211> 9
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 220
Asn Pro Ala Ser Pro Pro Leu Ser Leu
<210> 221
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 221
Ala Met Leu His Asp Val Val Leu
<210> 222
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 222
Ala Pro Val Leu Pro His Thr Ala Val
<210> 223
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 223
Leu Pro Pro Pro Pro Pro Gly His
<210> 224
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 224
```

```
Asn Pro Ala Ser Lys Val Ile Ala Leu
<210> 225
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 225
Lys Ser Phe Lys Leu Ser Gly Phe 1 \hspace{1cm} 5
<210> 226
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 226
Thr Leu Gly Asn Val Leu Val Thr Val
                  5
<210> 227
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 227
Ala Leu Leu Ala Tyr Thr Leu Gly Val
<210> 228
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 228
Leu Pro Lys Pro Pro Gly Arg Gly Val
<210> 229
<211> 8
<212> PRT
<213> Artificial Sequence
 <220>
 <223> synthetic peptide
 <400> 229
 Phe Val Phe Pro Gly Glu Leu Leu
 <210> 230
<211> 9
```

```
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 230
Ala Pro Ala Pro Arg Pro Ser Leu Leu
<210> 231
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 231
Ser Leu Leu Ala Ala Pro Ile Met Leu
<210> 232
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 232
Ser Pro Arg Leu Pro Val Gly Gly Phe
<210> 233
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 233
Gly Pro Ile Tyr Pro Gly His Gly Met
<210> 234
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 234
Ser Leu Val Ile Gly Ser Ile Leu Gly Ala 1 5 10
<210> 235
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 235
```

```
Ala Pro Arg Pro Ala Gly Ser Tyr Leu
<210> 236
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 236
Val Pro Tyr Gly Thr Pro Leu Ser Val
<210> 237
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 237
Ala Leu Phe Gly Ile Pro Met Ala Leu 1
<210> 238
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 238
Ser Pro Asn Lys Leu Tyr Thr Leu 1 5
<210> 239
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 239
Ala Pro Arg Gln Pro Gly Leu Met Ala
<210> 240
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 240
Ala Pro His Leu Val Gly Pro His Leu 1 5
<210> 241
<211> 9
```

```
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 241
Ser Leu Ile Pro Thr Ser Pro Gln Val
<210> 242
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 242
Val Pro Lys Gly Trp Glu Ile Ile
<210> 243
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 243
Ser Pro Arg Gly Phe Pro Leu Gly Leu
<210> 244
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 244
Ala Pro Ser Arg Asn Gly Met Val Leu 1 \phantom{\bigg|}5
<210> 245
<2102 243
<2112 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 245
Met Leu Phe Pro Gly Ser Ile Ala Leu
<210> 246
<211> 9
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 246
```

```
Ala Pro Arg Val Pro Val Gln Ala Leu
<210> 247
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 247
Leu Leu Pro Gly Glu Leu Ala Lys
<210> 248
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 248
Phe Phe Ser Val Phe Met Ala Leu
<210> 249
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
Gly Pro Arg Ala Pro Gly Pro Ser Leu Leu
<210> 250
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 250
Gly Pro Arg Thr Ala Ala Leu Gly Leu Leu
<210> 251
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 251
Ser Pro Asn Gln Lys Leu Leu Ala Val 1 \phantom{\bigg|}5
<210> 252
<211> 9
```

```
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 252
Leu Leu Ala Ser Glu Val Pro Gln Leu 1 . 5
<210> 253
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 253
Ala Pro Lys Arg Pro Pro Ser Ala Phe
<210> 254
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 254
Val Pro Ala Glu Pro Lys Leu Ala Phe
<210> 255
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 255
Ala Pro Ala Arg Leu Phe Ala Leu Leu 1 5
<210> 256
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 256
Lys Leu Gly Glu Ile Val Thr Thr Ile
        5
<210> 257
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 257
```

```
Met Val Asp Gly Thr Leu Leu Leu
<210> 258
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 258
Thr Pro Ser Glu Pro His Pro Val Leu
<210> 259
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 259
Ala Pro Asp Ala Ala Pro Ala Pro Ala Ser Ile 1 \phantom{\bigg|} 5 \phantom{\bigg|} 10
<210> 260
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 260
Ala Leu Pro Glu Asp Leu Val Glu Val
<210> 261
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 261
Gly Ser His Ser Met Arg Tyr Phe
<210> 262
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 262
Ala Pro Ala Ser Pro Phe Arg Gln Leu
<210> 263
<211> 9
```

```
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 263
Asn Ile Lys Phe Val Pro Ala Glu Ala
1 5
<210> 264
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 264
Met Leu Ala Ala Leu Asn Gly Leu Ser Val
<210> 265
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 265
Ala Pro Arg Pro Pro Pro Lys Pro Met
<210> 266
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 266
Ser Pro Asn Ala Glu Ile His Ile Leu
<210> 267
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 267
Ala Pro Arg Thr Val Leu Leu Leu
<210> 268
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 268
```

```
Phe Val Leu Pro Glu Leu Pro Ser Val
<210> 269
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 269
Phe Ser Asn Phe Ile Phe Glu Val
<210> 270
<211> 9
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 270
Ala Pro Glu Glu His Pro Val Leu Leu
<210> 271
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 271
Ser Pro Lys Gly Lys Phe Ser Leu Phe 1 \hspace{1cm} 5
<210> 272
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 272
Ala Leu His Asp Ile Leu Thr Glu Ile 1 \phantom{\bigg|}
<210> 273
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 273
Leu Pro Gln Gly Ile Val Arg Glu Leu 1 5
<210> 274
<211> 9
```

```
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 274
Ser Leu Ile Asp Gln Phe Phe Gly Val
<210> 275
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 275
Met Leu Phe Gly His Pro Leu Leu Val
1 5
<210> 276
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 276
Ala Leu Pro Glu Ile Phe Thr Glu Leu
<210> 277
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 277
Thr Pro Trp Gln Pro Pro Thr Val Leu
<210> 278
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 278
Leu Pro Arg Gln Pro Pro Met Ser Leu
<210> 279
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 279
```

```
Ser Pro Asn Leu Arg Leu Leu Asp Leu
<210> 280
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 280
Ile Leu His Asp Asp Glu Val Thr Val 1
<210> 281
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 281
Phe Leu Leu Pro Leu Ile Ile Val Leu
<210> 282
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 282
Leu Pro Asp Glu Arg Thr Ile Ser Leu 1 5
<210> 283
<211> 9
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 283
Ser Leu Leu Leu Asn Met Leu Glu Ile 1 \phantom{\bigg|}5\phantom{\bigg|}
<210> 284
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 284
Leu Pro Ala Trp Pro His Arg Gly Leu
<210> 285
<211> 9
```

```
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 285
Ala Leu Trp Gly Phe Phe Pro Val Leu
<210> 286
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 286
Tyr Pro Lys Arg Pro Leu Leu Gly Leu
<210> 287
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 287
Ala Pro Phe Leu Arg Asn Val Glu Leu
<210> 288
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 288
Asn Pro Ala Glu Asn Phe Arg Val Leu
<210> 289
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 289
Val Leu Asp Asp Lys Leu Tyr Val Val
<210> 290
<211> 9
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 290
```

```
Asn Gln Phe Pro Gly Phe Lys Glu Val
<210> 291
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 291
Arg Pro Lys Asp Pro Asn Asn Leu Leu
<210> 292
<211> 9
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 292
Leu Val Phe Asp Ala Leu Ile Tyr Ile 1 \phantom{\bigg|}5\phantom{\bigg|}
<210> 293
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 293
Ser Pro His Ile Pro Tyr Lys Leu Leu
<210> 294
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 294
Tyr Val Val Asp Ile Phe Thr Thr Leu 1 5
<210> 295
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 295
Arg Leu Gln Glu Glu Leu Ile Ala Val
<210> 296
<211> 9
```

```
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 296
Asn Leu Met Glu Gln Pro Ile Lys Val 1 \phantom{\bigg|}5
<210> 297
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 297
Phe Met Leu Pro Asp Pro Gln Asn Ile
<210> 298
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 298
Thr Leu His Asp Gln Val His Leu Leu
<210> 299
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 299
Ile Leu Ser Pro Ala Gly Gln Ile Phe Met
<210> 300
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 300
Phe Leu Ser Glu Leu Thr Gln Gln Leu
<210> 301
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 301
```

```
Ser Pro Arg Phe Pro Ala Gln Tyr Leu
1 5
<210> 302
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 302
<210> 303
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 303
Thr Leu Thr Glu Glu Gly Val Ile Lys Val
<210> 304
<211> 10
<212> PRT
 <213> Artificial Sequence
 <220>
<223> synthetic peptide
 <400> 304
Thr Leu Thr Glu Glu Gly Val Ile Gln Val 1 5 10
 <210> 305
<211> 10
<212> PRT
<213> Artificial Sequence
 <220>
 <223> synthetic peptide
 <400> 305
 Phe Leu Gln Glu Gly Asp Leu Ile Ser Ala
 <210> 306
<211> 9
<212> PRT
<213> Artificial Sequence
 <220>
 <223> synthetic peptide
 <400> 306
 Lys Ile Leu Asp Tyr Glu Val Thr Leu 1 \,\,
 <210> 307
<211> 9
```

```
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 307
Ile Leu Phe Lys Ser Ile Phe Glu Val
<210> 308
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 308
Asn Pro Arg Ile Pro Tyr Thr Glu Leu
1 5
<210> 309
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 309
Phe Leu Ala Asp Pro Ser Ala Phe Val Ala Ala
<210> 310
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 310
Leu Leu Pro Asp Tyr Tyr Leu Val
<210> 311
<211> 9
<212> PRT
<213> Artificial Sequence
 <220>
<223> synthetic peptide
 <400> 311
Arg Pro Arg Pro Asp Asp Leu Glu Ile
1 5
<210> 312
<211> 9
<212> PRT
<213> Artificial Sequence
 <220>
 <223> synthetic peptide
 <400> 312
```

```
Tyr Thr Glu Phe Thr Pro Thr Glu Lys
<210> 313
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 313
Lys Pro Lys Thr Pro Ser Leu Thr Val Phe
<210> 314
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 314
Leu Phe Arg Thr Gln Leu Lys Thr Leu
<210> 315
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
Lys Met Leu Arg Leu Ser Tyr Pro Leu 1 5
<210> 316
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 316
Thr Leu Leu Glu Asp Gly Thr Phe Lys Val
<210> 317
<211> 9
<212> PRT
<213> Artificial Sequence
·<220>
<223> synthetic peptide
 <400> 317
His Leu Leu Glu Glu Pro Ile Tyr Leu
1 5
 <210> 318
<211> 9
```

```
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 318
Ser Leu Leu Asp Glu Phe Tyr Lys Leu
<210> 319
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 319
Ser Pro Arg Glu Asn Ile Leu Val Ser Leu
1 5
<210> 320
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 320
Ala Leu Ile Glu Val Pro Asp Gly Phe Thr Ala 1 5 10
<210> 321
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 321
Ser Leu Leu Asp Arg Phe Leu Ala Thr Val
<210> 322
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 322
Gln Pro Asp Gln Thr Arg Ile Val Ala Leu
       5
<210> 323
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 323
```

```
Ala Pro Arg Thr Val Leu Leu Leu Ser Ala
<210> 324
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 324
Tyr Ile Phe Glu Glu Pro Phe Thr Ile
<210> 325
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 325
Thr Pro Ser Leu Val Lys Ser Thr Ser Gln Leu
<210> 326
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 326
Val Leu Ile Asp Val Gly Thr Gly Tyr Tyr Val
<210> 327
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 327
Ile Pro Tyr His Ser Glu Val Pro Val Ser Leu
<210> 328
<211> 12
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
 <400> 328
Ala Pro Ser His Ala Lys Phe Arg Ser Thr Gly Leu
<210> 329
<211> 8
```

```
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 329
Val Ile Leu Asp Leu Pro Leu Val
<210> 330
<211> 8
<211> 0
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 330
Leu Leu Pro Asp Tyr Tyr Leu
<210> 331
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 331
Val Leu Val Pro Gly His Leu Gln Ser Val
<210> 332
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 332
Leu Leu Asp Pro Asn Val Lys Ser Ile Phe Val
<210> 333
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 333
Ile Phe Asp Leu Gly Gly Gly Thr Phe
<210> 334
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 334
```

```
Val Phe Asp Pro Val Pro Val Gly Val
<210> 335
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 335
Phe Phe Glu Ser Phe Gly Asp Leu 1 5
<210> 336
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 336
Ala Phe Asp Pro Thr Ser Thr Leu Leu 1 \hspace{1.5cm} 5
<210> 337
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 337
His Phe Asp Met Ala Val Tyr Leu
<210> 338
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 338
Ser Phe Asp Thr Gly Phe Thr Ser Phe 1 \hspace{1cm} 5
<210> 339
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 339
Lys Phe Asp Asp Gly Ala Val Phe Leu 1 \hspace{1.5cm} 5
<210> 340
<211> 9
```

```
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 340
Ser Met Asp Pro Leu Pro Val Phe Leu 1 5
<210> 341
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 341
Val Phe Asp Glu Ala Ile Arg Ala Val
<210> 342
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 342
Leu Phe Asp Pro Met Thr Gly Thr Phe
<210> 343
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 343
Ser Phe Asp Ala His Leu Thr Glu Leu
<210> 344
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 344
Val Phe Asp Lys Thr Leu Ala Glu Leu
<210> 345
<211> 9
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
```

<400> 345

```
Ile Phe Asp Ser Lys Val Thr Glu Ile
<210> 346
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 346
Ala Tyr Asp Pro Tyr Leu Ile Ala Met 1 5
<210> 347
<210> 347
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 347
Tyr Phe Asp Pro Ala Asn Gly Lys Phe
<210> 348
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 348
Leu Phe Asp His Ala Val Ser Lys Phe
<210> 349
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 349
Val Tyr Asp Gly Lys Ile Tyr Thr Leu
1 5
<210> 350
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 350
His Phe Asp Leu Ser Val Ile Glu Leu
<210> 351
<211> 9
```

```
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 351
Thr Phe Asp Asp Ile Val His Ser Phe
<210> 352
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 352
His Phe Asp Pro Glu Val Val Gln Ile
<210> 353
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 353
Ser Tyr Asp Leu Phe Val Asn Ser Phe
<210> 354
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 354
Thr Phe Asp Leu Gln Arg Ile Gly Phe
<210> 355
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 355
Lys Tyr Asp Pro Asn Val Tyr Ser Ile 1 \phantom{\bigg|}5
<210> 356
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 356
```

```
Phe Trp Pro Ser Leu Pro Ser Tyr Leu
<210> 357
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 357
Tyr Tyr Asp Gly Lys Val Met Lys Leu 1 	 5
<210> 358
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 358
Ser Phe Asp Leu Leu Pro Arg Glu Phe
<210> 359
<211>
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 359
His Trp Asp Pro Gln Glu Val Thr Leu
<210> 360
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 360
Val Phe Asp'Glu Ala Ile Arg Ala Val Leu
<210> 361
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 361
<210> 362
<211> 9
```

```
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 362
Phe Tyr Asp Glu Arg Ile Val Val
<210> 363
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 363
Lys Trp Pro Asp Arg Ile Thr Leu Leu
<210> 364
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 364
Tyr Tyr Asp Glu Lys Val Val Lys Leu 1 	 5
<210> 365
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 365
Leu Phe Asp Lys His Lys Thr Lys Phe
<210> 366
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 366
<210> 367
<211> 10
<212> PRT
<213> Artificial Sequence
<223> synthetic peptide
<400> 367
```

```
Ser Tyr Asp Pro Thr Ile Glu Asn Thr Phe
<210> 368
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 368
Tyr Leu Pro Asp Phe Leu Asp Tyr Phe
<210> 369
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 369
Arg Phe Asp Glu Ala Tyr Ile Tyr Met 1 5
<210> 370
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> synthetic peptide
<400> 370
Tyr Phe Asp Pro Gln Tyr Phe Glu Phe
<210> 371
<211> 30
<212> DNA
<213> Artificial Sequence
<220>
<223> synthetic oligonucleotide
<400> 371
aagcttatgc tggtcatggc gccccgaacc
                                                                               30
<210> 372
<211> 42
<212> DNA
<213> Artificial Sequence
<220>
<223> synthetic oligonucleotide
<400> 372
ggatccttag atatcgggga cggtggactg ggaagacggc tc
                                                                                42
```